

GENERAL AND COMPARATIVE ENDOCRINOLOGY

Editors-in-Chief

FRANK L. MOORE

IAN W. HENDERSON

Volume 118

2000

*Published under the Auspices of the Division of
Comparative Endocrinology of The Society for
Integrative and Comparative Biology, the European
Society for Comparative Endocrinology, the Asia
and Oceania Society for Comparative
Endocrinology, and the Japan Society for
Comparative Endocrinology*



**ACADEMIC
PRESS**

A Harcourt Science and
Technology Company

Copyright © 2000 by Academic Press

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher. *Exceptions:* Explicit permission from Academic Press is not required to reproduce a maximum of two figures or tables from an Academic Press article in another scientific or research publication provided that the material has not been credited to another source and that full credit to the Academic Press article is given. In addition, authors of work contained herein need not obtain permission in the following cases only: (1) to use their original figures or tables in their future works; (2) to make copies of their papers for use in their classroom teaching; and (3) to include their papers as part of their dissertations.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-2000 articles are the same as those for current articles.

0016-6480/00 \$35.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper. ∞

CONTENTS OF VOLUME 118

Number 1, April 2000

- | | | |
|----|---|--|
| 1 | Effects of <i>Manduca</i> Diuresin on Neonates of the Tobacco Hornworm, <i>Manduca sexta</i> | Michael Ma, Sutatip B. Emery,
Wan-Keung R. Wong, and Arnold De Loof |
| 8 | Possible Relationship between the B-Cell Threshold for Glucose-Induced Insulin Secretion and Blood Glucose Concentrations in the Normal Toad | Flavio Francini, Maria Laura Massa,
Sigurd Lenzen, and Juan José Gagliardino |
| 14 | Seasonal Variations and Maturity Stages in Relation to Differences in Serum Levels of Gonadal Steroids, Vitellogenin, and Thyroid Hormones in the Common Dentex (<i>Dentex dentex</i>) | M. Pavlidis, L. Greenwood, B. Mourot,
C. Kokkari, F. Le Menn, P. Divanach,
and A. P. Scott |
| 26 | Localization of Receptors for Natriuretic Peptide and Endothelin in the Duct of the Epididymis of the Freshwater Turtle | Sung Zoo Kim, Seon Young Kang,
Sook Jeong Lee, and Kyung Woo Cho |
| 39 | β -Endorphin and Gonadotropin-Releasing Hormone in the Forebrain and Pituitary of the Female Catfish, <i>Clarias batrachus</i> : Double-Immunolabeling Study | Sumit Sarkar and Nishikant Subhedar |
| 48 | Catechol Concentrations in the Hemolymph of the Scallop, <i>Placopecten magellanicus</i> | Amar K. Pani and Roger P. Croll |
| 57 | The Distribution of Lamprey GnRH-III in Brains of Adult Sea Lampreys (<i>Petromyzon marinus</i>) | Masumi Nozaki, Kunihiro Ominato,
Aubrey Gorbman, and Stacia A. Sower |
| 68 | Occurrence of Immunoreactive Activin/Inhibin β_B in Thyrotropes and Gonadotropes in the Bullfrog Pituitary: Possible Paracrine/Autocrine Effects of Activin B on Gonadotropin Secretion | Hideho Uchiyama, Aya Koda,
Shinji Komazaki, Mina Oyama,
and Sakae Kikuyama |
| 77 | Biological and Immunological Characterization of Multiple GnRH in an Opisthobranch Mollusk, <i>Aplysia californica</i> | Lihong Zhang, Nancy L. Wayne,
Nancy M. Sherwood, Hector R. Postigo,
and Pei-San Tsai |
| 90 | Melatonin Counteracts the Stimulatory Effects of Blinding or Exposure to Red Light on Reproduction in the Skipper Frog <i>Rana cyanophlyctis</i> | B. N. Joshi and K. Udaykumar |

- 96 Expression of Cytochrome P450 Cholesterol Side Chain Cleavage and 3 β -Hydroxysteroid Dehydrogenase during Embryogenesis in Chicken Adrenal Glands and Gonads
Ikuko Kanda, Yasuhisa Akazome, Osamu Ogasawara, and Takao Mori
- 105 Molecular Cloning of Proopiomelanocortin cDNA from an Elasmobranch, the Stingray, *Dasyatis akajei*
Yutaka Amemiya, Akiyoshi Takahashi, Nobuo Suzuki, Yuichi Sasayama, and Hiroshi Kawauchi
- 113 Effects of Weather on Corticosterone Responses in Wild Free-Living Passerine Birds
L. Michael Romero, J. Michael Reed, and John C. Wingfield
- 123 Molecular Cloning and Characterization of Japanese Eel Ovarian P450c17 (CYP17) cDNA
Yukinori Kazeto, Shigeho Ijiri, Takashi Todo, Shinji Adachi, and Kohei Yamauchi
- 134 Long-Term Peripheral Treatment of Immature Coho Salmon (*Oncorhynchus kisutch*) with Human Leptin Has No Clear Physiologic Effect
Dianne M. Baker, Donald A. Larsen, Penny Swanson, and Walton W. Dickhoff
- 139 Phylogenetic Sequence Analysis, Recombinant Expression, and Tissue Distribution of a Channel Catfish Estrogen Receptor β
Zhenfang Xia, William L. Gale, Xiaotian Chang, David Langenau, Reynaldo Patiño, Alec G. Maule, and Llewellyn D. Densmore
- 150 The Expression of Preprosomatostatin II mRNAs in the Brockmann Bodies of Rainbow Trout, *Oncorhynchus mykiss*, Is Regulated by Glucose
Melissa M. Ehrman, Gregory T. Melroe, Jeffrey D. Kittilson, and Mark A. Sheridan
- 161 Identification of Orcokinin Gene-Related Peptides in the Brain of the Crayfish *Procambarus clarkii* by the Combination of MALDI-TOF and On-Line Capillary HPLC/Q-ToF Mass Spectrometries and Molecular Cloning
Yoshimi Yasuda-Kamatani and Akikazu Yasuda
- 173 Photoperiodic Regulation of the Male House Sparrow Song Control System: Gonadal Dependent and Independent Mechanisms
Melissa Whitfield-Rucker and Vincent M. Cassone

Book Review

- 184 *Endocrinology of Aging*. Edited by J. E. Morley and L. van den Berg
- 185 *Announcement*

- 187 Mammalian Mesotocin: cDNA Sequence and Expression of an Oxytocin-like Gene in a Macropodid Marsupial, the Tammar Wallaby
Laura J. Parry, Ross A. D. Bathgate, and Richard Ivell
- 200 Changes in Protein Kinase C during Vitellogenesis in the Crayfish *Cherax quadricarinatus*—Possible Activation by Methyl Farnesoate
Yoram Soroka, Amir Sagi, Isam Khalaila, Uri Abdu, and Yoram Milner
- 209 Annual Cycles of Steroid Hormone Production, Gonad Development, and Reproductive Behavior in the Atlantic Stingray
Timothy C. Tricas, Karen P. Maruska, and L. E. L. Rasmussen
- 226 Differential Distribution of Gonadotropin-Releasing Hormone-Immunoreactive Neurons in the Stingray Brain: Functional and Evolutionary Considerations
Paul M. Forlano, Karen P. Maruska, Stacia A. Sower, Judy A. King, and Timothy C. Tricas
- 249 Bovine Adrenal Cells Secrete Interleukin-6 and Tumor Necrosis Factor *in Vitro*
Gerald B. Call, Omar F. Husein, Christopher J. McIlmoil, Andrew Adams, Richard A. Heckmann, and Allan M. Judd
- 262 Seasonal Relationships between Plasma and Fecal Testosterone in Response to GnRH in Domestic Ganders
Katharina Hirschenhauser, Erich Möstl, Peter Péczely, Bernhard Wallner, John Dittami, and Kurt Kotrschal
- 273 The Role of Steroid Hormones in Protogynous Sex Change in the Blackeye Goby, *Coryphopterus nicholsii* (Teleostei: Gobiidae)
Frederieke J. Kroon and N. Robin Liley
- 284 Distinct Specificity for Corticosteroid Binding Sites in Amphibian Cytosol, Neuronal Membranes, and Plasma
Miles Orchinik, Laura Matthews, and Paul J. Gasser
- 302 Recombinant Prolactin Receptor Extracellular Domain of Rainbow Trout (*Oncorhynchus mykiss*): Subcloning, Preparation, and Characterization
Y. Sandowski, Y. Cohen, P. Le Rouzic, Ch. Bignon, F. Rentier-Delrue, J. Djiane, P. Prunet, and A. Gertler
- 310 Sex-Related Differences in the Effects of Late Winter Pairing Activity and Seasonal Influences on Neuroendocrinology and Gonadal Development of Mallards
Cynthia K. Bluhm, Israel Rozenboim, Janet Silsby, and Mohamed El Halawani
- 322 Sex Steroid Levels across the Reproductive Cycle of Female Leopard Geckos, *Eublepharis macularius*, from Different Incubation Temperatures
Turk Rhen, Jon T. Sakata, Mark Zeller, and David Crews
- 332 Gonadal Source of Testosterone Metabolites in Urine of Male Cotton-Top Tamarin Monkeys (*Saguinus oedipus*)
T. E. Ziegler, A. A. Carlson, A. J. Ginther, and C. T. Snowdon

- | | | |
|-----|---|---|
| 344 | Effects of Melatonin on Liver Estrogen Receptor and Vitellogenin Expression in Rainbow Trout: An <i>in Vitro</i> and <i>in Vivo</i> Study | David Mazurais, Mark Porter, Christèle Lethimonier, Gwenola Le Dréan, Pascale Le Goff, Clive Randall, Farzad Pakdel, Niall Bromage, and Olivier Kah |
| 354 | Widespread Expression of the mRNA Encoding a Novel Vitamin D/Thyroxine Dual Binding Protein in the Turtle <i>Trachemys scripta</i> | Deanne J. Whitworth, Leigh Hunt, and Paul Licht |

Erratum

- 359 Volume 117, Number 2 (2000), in the article "Metamorphosis in the Summer Flounder, *Paralichthys dentatus*: Thyroidal Status Influences Gill Mitochondria-Rich Cells," by Alex M. Schreiber and Jennifer L. Specker, pages 238–250 (doi:10.1006/gcen.1999.7407)

Number 3, June 2000

- | | | |
|-----|---|--|
| 365 | The Effects of Highly Selective Opioid Receptor Antagonists on the Release of Arginine Vasotocin Induced by Hyperosmotic Stimulation and Angiotensin II Injection | Takeshi Sasaki, Koji Arakawa, Kiyoshi Shimada, and Noboru Saito |
| 373 | Cloning of the cDNA for Sea Bream (<i>Sparus aurata</i>) Parathyroid Hormone-Related Protein | J. A. Flanagan, D. M. Power, L. A. Bendell, P. M. Guerreiro, J. Fuentes, M. S. Clark, A. V. M. Canario, J. A. Danks, B. L. Brown, and P. M. Ingleton |
| 383 | Oocyte Plasma Membrane Proteins and the Appearance of Vitellogenin Binding Protein during Oocyte Growth in the Lizard <i>Podarcis sicula</i> | Maurizio Romano and Ermelinda Limatola |
| 393 | Glucose Stimulates the Release of Bombyxin, an Insulin-Related Peptide of the Silkworm <i>Bombyx mori</i> | Makoto Masumura, Shin'Ichiro Satake, Hironao Saegusa, and Akira Mizoguchi |
| 400 | Short-Chain Fatty Acids Inhibit the Release and Content of Growth Hormone in Anterior Pituitary Cells of the Goat | H. Ishiwata, M. Nagano, Y. Sasaki, C. Chen, and K. Katoh |
| 407 | Evidence for a Hormonal Tactic Maximizing Green Turtle Reproduction in Response to a Pervasive Ecological Stressor | Tim S. Jessop, Mark Hamann, Mark A. Read, and Colin J. Limpus |

- | | | |
|-----|--|--|
| 418 | Effects of Gonadotropin-Releasing Hormone Analog on Expression of Genes Encoding the Growth Hormone/Prolactin/Somatolactin Family and a Pituitary-Specific Transcription Factor in the Pituitaries of Prespawning Sockeye Salmon | Shinya Taniyama, Takashi Kitahashi, Hironori Ando, Masahide Kaeriyama, Yonathan Zohar, Hiroshi Ueda, and Akihisa Urano |
| 425 | Year-Class Differences in the Reproductive System, Plasma Prolactin and Corticosterone Concentrations, and Onset of Prebasic Molt in Male Dark-Eyed Juncos (<i>Junco hyemalis</i>) during the Breeding Period | Pierre Deviche, John C. Wingfield, and Peter J. Sharp |
| 436 | Effects of Salmon Gonadotropin-Releasing Hormone on Follicle Stimulating Hormone Secretion and Subunit Gene Expression in Coho Salmon (<i>Oncorhynchus kisutch</i>) | John T. Dickey and Penny Swanson |
| 450 | Intermale Competition in Sexually Mature Arctic Charr: Effects on Brain Monoamines, Endocrine Stress Responses, Sex Hormone Levels, and Behavior | Ulf O. E. Elofsson, Ian Mayer, Børge Damsgård, and Svante Winberg |
| 461 | Evidence That Nitric Oxide Is Involved in the Regulation of Growth Hormone Secretion in Goldfish | Aubrey D. Uretsky and John P. Chang |
| 471 | Remodeling of Turkey Adrenal Steroidogenic Tissue Induced by Dietary Protein Restriction: The Potential Role of Cell Death | Rocco V. Carsia and Helen Weber |
| 480 | <i>Author Index for Volume 118</i> | |

